

Appl. No. 10/066,115  
Amdt. dated 2/22/06  
Reply to Office Action of 11/16/05

PATENT  
Docket: 020103

### REMARKS

Claims 47-92 are pending in the present application. Claims 47-92 have been examined and are rejected. In the above amendments, claims 47, 48, 52-56, 81, 86 and 91 have been amended, and new claims 93-97 have been added. Therefore, after entry of the above amendments, claims 47-97 will be pending in this application. Applicant believes that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

#### Rejection of Claims 47-72, 75, 78 and 81-92 Under 35 U.S.C. §102(e)

Claims 47-72, 75, 78 and 81-92 stand rejected under 35 U.S.C. §102(e) as being anticipated by Faulkner (U.S. Patent No. 6,606,484).

Faulkner describes a receiver 1 having a mixer 3, a distortion correction circuit 5, and a demodulated signal path 8. (See Fig. 1.) Mixer 3 receives a modulated radio frequency (RF) carrier signal and a local oscillator signal and generates a downconverted signal v. Distortion correction circuit 5 includes a squaring circuit 6 and a distortion estimate signal path 9. Squaring circuit 6 receives the downconverted signal v from mixer 3 and generates a squarer output signal v2. Distortion estimate signal path 9 receives the squarer output signal v2 and generates a distortion estimate signal w or x, which is subtracted from demodulated signal path 8. (See column 3, line 52 to column 4, line 4.)

Claim 47 of the present invention, as amended, recites:

"A circuit including a compensation branch for reducing second order non-linear distortion in a receiver caused by jammers during direct down conversion of a received RF signal by the receiver, the compensation branch being adapted to be coupled to the receiver to reproduce the second order nonlinear distortion in the receiver and including:

a squaring circuit for receiving the received RF signal and generating a squared version of the received RF signal,

a gain stage for receiving the squared version of the received RF signal and generating the reproduced second order nonlinear distortion; and

an output coupling circuit for coupling the reproduced second order nonlinear distortion to an output of the receiver to generate a down-converted baseband signal characterized with reduced second order nonlinear distortion."

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Applicant submits that claim 47 is not anticipated by Faulkner for at least the following reasons.

First, Faulkner does not disclose "a squaring circuit for receiving the received RF signal," as recited in claim 1. Rather, Faulkner describes squaring circuit 6 receiving a downconverted signal v from the output of mixer 3 and not the modulated RF carrier signal u at the input of mixer 3. (See Fig. 1.)

Second, Faulkner does not disclose "a squaring circuit ... generating a squared version of the received RF signal," as recited in claim 1. As shown in Fig. 1, Faulkner generates a squared version of the mixer output signal v and not the modulated RF carrier signal u.

Third, Faulkner does not disclose "a gain stage for receiving the squared version of the received RF signal and generating the reproduced second order nonlinear distortion," as recited in claim 1. Rather, Faulkner describes a gain scaling unit 7 receiving the square of the mixer output signal v.

For at least the above reasons, Applicant submits that claim 47 is not anticipated by Faulkner. Claims 47-72, 75, 78 are dependent on claim 1 and are not anticipated by Faulkner for at least the reasons noted for base claim 1. These dependent claims may recite additional features not disclosed by Faulkner.

In claim 48, Faulkner does not disclose "wherein the output coupling circuit couple the reproduced second order nonlinear distortion to an output of the mixer." This feature is shown in FIG. 3 of the present application.

In claims 52-56, Faulkner does not disclose "wherein the squaring circuit is part of the mixer." This feature is shown in FIG. 3 and described in paragraph [1042] of the present application.

Independent claims 81, 86 and 91 have each been amended to recite the features noted above for claim 47. Claims 82-85 are dependent on claim 81, claims 87-90 are dependent on claim 86, and claim 92 is dependent on claim 91. These dependent claims are not anticipated by Faulkner for at least the reasons noted for claim 47.

Accordingly, the §102(e) rejection of claims 47-72, 75, 78 and 81-92 should be withdrawn.

Rejection of Claims 73, 74, 76, 77, 79 and 80 Under 35 U.S.C. §103(a)

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Claims 73, 74, 76, 77, 79 and 80 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Faulkner (U.S. Patent No. 6,606,484) in view of Rahamim (U.S. Patent No. 5,541,990). The rejection indicates that Faulkner discloses the features of intervening claims 72, 75 and 78 and that Rahamim discloses the features of dependent claims 73, 74, 76, 77, 79 and 80.

Applicant submits that claims 73, 74, 76, 77, 79 and 80 are patentable over Faulkner in view of Rahamim for at least the following reasons.

First, Faulkner does not disclose all of the features of base claim 47, as noted above. Hence, Faulkner is an insufficient basis for the §103(a) rejection of dependent claims 73, 74, 76, 77, 79 and 80.

Second, there is no suggestion or motivation to combine Faulkner with Rahamim, which deal with two different problems. Faulkner is concerned with reducing distortion generated by receiver circuitry at radio frequency. Rahamim is concerned with canceling echo at audio frequency. Echo results from an audio signal being sent from near-end to far-end, reflected back at the far-end, and sent back to the near-end.

Third, Rahamim does not disclose "the integrated circuit being responsive to a test signal generated under MSM control to provide calibration," as recited in claims 74, 77 and 79. The rejection indicates that this feature is disclosed by Rahamim in column 4, lines 17-32. However, this section of Rahamim simply states "transceiver 310 includes two output transmit lines Tx1 and Tx2, and one input receive line Rxin. The transmit lines allow outgoing transmission signals to be sent to the telephone line 320, while the Rxin line directs incoming signals into modem transceiver." Rahamim does not generate any test signals.

Accordingly, the §103(a) rejection of claims 73, 74, 76, 77, 79 and 80 should be withdrawn.

#### New Claims

New claims 93-97 recite additional features of the invention. Claims 93-97 are dependent on claim 47 and are not anticipated by Faulkner for at least the reasons noted for base claim 47.

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### CONCLUSION

In light of the amendments contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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